ABSTRACT

DEVELOPING A MODULE OF WELDING BY USING *OXY-ACETYLENE* WELDING IN SMK MUHAMMADIYAH 3 YOGYAKARTA

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The purpose of this research was to find out the form and the feasibility of the module of *oxy-acetylene* welding in SMK Muhammadiyah 3 Yogyakarta developed.

The procedure of the Research and Development were: (1) potential and problems identification; (2) data collecting; (3) product designing; (4) design validation; (5) design revising; (6) product try out; (7) product revising; (8) usage try out; (9) product revising and (10) mass producing. The subjects of this research were the first grade students of Machinery Engineering of SMK Muhammadiyah 3 Yogyakarta in the academic year of 2012 /2013. The data were obtained from material expert (1 lecturer), media expert (1 lecturer), small group try out (6 students), field try out (30 students), teachers (1 teacher), pretest (30 siswa), and posttest (30 siswa). The method used to collect data was by using questionnaire and test problems. The data was analyzed descriptive quantitatively and converted to be qualitative data to find out criteria of media assessment and the feasibility of media developed.

The results of this module are (1) initial section, (2) content section, and (3) lay out section. In initial section, the cover consists of: picture, title, the name of developer, and logo. In content section, there are some sub-activities of learning; those are objectives, materials' explanation, summary, assignment, formative test, and work sheet. The lay out section of subject matter page consists of chapter's title, basic competence, the list of pages, while the pages for materials consist of text, picture, text which consists of (x+96) pages as well as the module size of 210 x 97 mm in A4 paper size. The results of analysis show that the validity level from materials experts obtain the percentage of 83.75% with the criteria of "very good". The results of validation done by media experts got the percentage as amount to 81.25% with "very good" criteria. The teachers' evaluation has a percentage of 88.33% with the criteria of "very good". Small group try out got the percentage of 80.25% with "good" criteria. Field try out obtained the average value as amount to 87.8 with "very good" criteria.

Key Words: Developing, *oxy-acetylene* welding module, machinery engineering